



REMARKS

In the Office Action of Paper No. 13, the specification of the application was objected to for having a typographical error. Additionally, claims 1-3, 5-7, 20, and 21 were rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. Yet further, all of the pending claims were rejected based upon the prior art of record.

In response to the Office Action, Applicant has amended the specification of the application to correct the typographical error to overcome the objection to the specification. Additionally, Applicant has made amendments to the claims to delete the phrase "gas and unreacted chemicals in a vapor state" and replacing it with the phrase "gaseous reaction products", as supported in the specification on page 5, lines 12 and 13, thereby making the rejection of the claims under 35 U.S.C. §112 moot. Applicant has also amended claim 1 to clarify that the method thereof pertains to the treatment of an existing glassfibre product. Yet further, Applicant has amended claim 19 to clarify what surface of the boat hull is in contact with the permeable layer. Finally, Applicant has added new claim 25 to the application and submits the following arguments in support of the allowability of the pending claims.

Claims 1, 5, 6, 20, and 21 are Not Anticipated by U.S. Patent No. 4,016,022

(Browning):

Browning discloses a method used in the *fabrication* of composite products. The disclosure is entirely directed to fabrication, i.e., the manufacturer of new products such as prepreg material and/or composites (column 1, lines 51-60). In contrast, the claimed invention is generally directed to surface treatment of glassfibre products, boat hulls in particular. Thus Browning does not pertain to the treatment of a product but rather the formation of a product.

In rejecting claims 1, 5, 6, 20, and 21 as being anticipated by Browning, the Office Action refers to column 2, lines 60-65, of Browning in support of the position that Browning discloses a method of treating the surface of a glassfibre product. However, Applicant notes that this passage does not disclose any method of treating a glassfibre product, but rather discloses a conventional lay-up process method through which reinforcing fibers and resin are brought together against a mold to manufacture a new product. This is quite different from the claimed invention because the vacuum process described in the Browning reference has the primary aim of applying pressure to composite layers to consolidate them as they cure, whereas in the claimed method, the vacuum is supplied to remove gaseous reaction products. Removing gaseous reaction products during the process described in Browning would be detrimental because, prior to curing, all of the resin is unreacted and the vaporization and removal thereof would destroy the formation process.

Moreover, in the Office Action, it is alleged that the vacuum of Browning is at a pressure of between 2mb and 5mb absolute, as required by claims 1, 5, 6, 20, and 21.

This is incorrect. In lines 30-34 of column 3, the vacuum used in the Browning method is described as creating a pressure of about 14 psi. Based on standard atmospheric pressure of 14.7 psi, this equates to a .7 psi vacuum pressure or 48mb pressure. Clearly, 48 mb is not within a 2-5mb pressure range as claimed. Furthermore, because the Browning method pertains to the fabrication of the resin based composite, it would not be obvious to further reduce the pressure to the point in which gaseous reaction products would be extracted because, as stated above, this would have the effect of destroying the product being formed.

For all these reasons, claims 1, 5, 6, 20, and 21 are not anticipated by Browning and Applicant requests that the rejections of these claims based thereon be withdrawn.

Claims 20 and 21 are Not Anticipated by U.S. Patent No. 6,017,484 (Hale):

As was the case with the Browning reference, the Hale reference pertains to a manufacturing process and not a post-manufacture treatment process. To the extent that Hale discloses the repair of boats (column 14, lines 13-16), such repair pertains to the replacement of structure, for example repairing a hole by applying new composite material and resin to the surface and consolidating the material thereon. Moreover, claims 20 and 21 each explicitly require a “means for securing the layer of impermeable material to the surface of the hull around the periphery of the layer of gas permeable material.” The Office Action alleges that Hale discloses such a means, when in fact, it does not. Hale discloses securing an impermeable layer to a “tool” but not to part of the surface of the hull around the periphery of the layer of gas permeable material (see column 5, lines 3-5; column 6, lines 34-35; and column 7, lines 20-21). Moreover, if the

impermeable layer of Hale was attached to the same surface as the permeable layer, the device would not function for its intended purpose of compressing the layers of the composite as they cure.

For these reasons, the Hale reference fails to anticipate claim 20 and 21 and Applicant request that the rejections based thereon be withdrawn.

Claims 1-3, 5-7, and 19 are Not Obvious in View of Hale and U.S. Patent No.

4,007,245 (Scola):

While Scola discloses a method of strengthening a composite, this is quite different from the invention of claim 1, which is a method for treatment of a surface. Moreover, the invention of claim 1 pertains to the treatment of a particular region of a glassfibre product, which can be achieved from just one side of the product. In contrast, the Scola reference deals with the treatment of an entire article placed in a vacuum oven or other suitable container. To this end, Applicant notes that the Scola reference fails to disclose any particular steps other than placing an article in a vacuum oven and subjecting the article to heat. Thus, Scola does not disclose the use of layers of permeable and impermeable material to apply conditions of temperature and vacuum to a partial region of the surface of a glassfibre product.

Moreover, as discussed above, the method disclosed in the Hale reference pertains to a method of forming a composite object rather than to the treatment of a damaged portion of a composite. Thus, to suggest that these references render the claimed invention obvious is to suggest that it would be obvious to use just some of the components of Hale's device to treat just a partial region of a product's surface in a

manner so as to remove gaseous reaction products from the product in accordance with the Scola method. This is simply beyond the purview of obviousness. For example, even in combination, the Hale and Scola references fail to disclose the treatment of a partial region of a product or to even suggest that such a treatment is possible. Thus, absent the disclosure of the present invention, there is no teaching or suggestion to combine any portions of the disclosures of Hale and Scola so as to practice the invention of claim 1.

Without any teaching or suggestion in the prior art to combine the Scola and Hale references, the obviousness rejection of the claim 1, and claims 2-3 and 5-7 which are dependent thereon, is improper and should be withdrawn. For these same reasons, the obviousness rejection of claim 19 in view of the Hale and Scola references is also improper and should be withdrawn.

In regard to EP 0839635 (McBroom), Applicant notes that this reference is cited in the Office Action in support of it being obvious to maintain a temperature below 90° C in order to prevent steaming. Steaming may be an issue with the McBroom method because that method is directed to the formation of composite material and such steaming could affect this formation. However, steaming does not affect the practice of the present invention and most likely occurs to some extent due to the significantly low pressures involved. Thus, it should be appreciated that the purpose of maintaining the temperature below 90° C as recited in claim 7 of the present application is to prevent damage to the composite material. Thus it would not be obvious to combine the heating step of McBroom with other prior art references to establish the obviousness of

the heating step of the present invention because such a heating steps serve completely different purposes and are concerned with different factors.

Claim 19 is Not Obvious in View of U.S. Pat. No. 5,462,702 (Slaughter) and McBroom

The McBroom reference pertains to repairing holes in composite structures. To this end, the McBroom reference merely discloses placing filler material and a patch over a hole to repair a composite structure. In contrast, the aim of the present invention does not pertain to the repair a physical hole but to the chemical repair of the glassfibre structure underlying an outer gelcoat by extracting moisture and/or unreacted chemical compounds of the chemically damaged structure through its surface. As such, the McBroom reference simply does not pertain to nor suggests a method involving “removing gas and vapor from the hull,” as required by claim 19. At most, the McBroom method removes gas from space between the hull and the impermeable layer, but not from the hull as is required by claim 19.

Moreover, as amended herein, claim 19 requires that the removing of the gelcoat exposes a new surface of the boat hull and the layer of gas permeable material is required to be positioned in contact with a portion of the new surface. Yet further, claim 19 require that the gas and vapor be removed from the hull through the new surface of the hull. Neither McBroom nor Slaughter disclose or suggest these limitations.

For all these reasons, the McBroom and Slaughter references fail to make obvious claim 19 and Applicant therefore requests that the rejection based thereon be withdrawn.

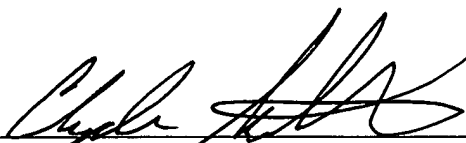
Response to Paragraph 17 of the Office Action:

Paragraph 17 of the Office Action alleges that the claims do not exclude the steps of repair as disclosed in McBroom. Whether they do or not is not relevant to the patentability of the pending claims. However, Applicant points out that if the surface of the glass fiber product is covered by a patch or new resin, that surface is no longer exposed to the vacuum or to the permeable material. Thus, while the claims do not explicitly exclude the steps of McBroom, many of the steps of McBroom could not be performed while practicing the claimed invention.

Conclusion

In view of the above, Applicant submits that the claims presently pending in this application are allowable over the prior art and requests that the rejections thereof be withdrawn.

Respectfully submitted,



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